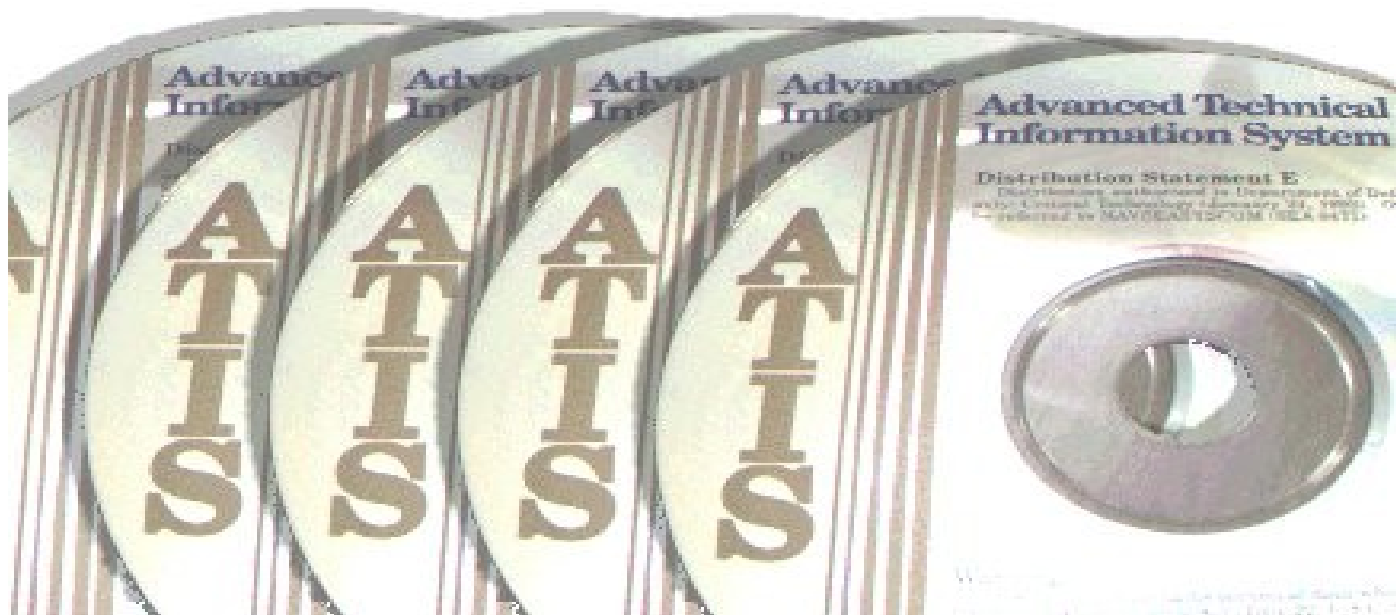


ADVANCED TECHNICAL INFORMATION SUPPORT (ATIS) SYSTEM

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INTRODUCTION

- ATIS SOFTWARE DESCRIPTION
- SOFTWARE CAPABILITIES
- RECENT ATIS SOFTWARE ENHANCEMENTS
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ATIS OVERVIEW

- ATIS is a Navy standard digital data repository and presentation system that provides easy access to technical data
- Provides a standard platform on which to link technical documentation and logistics/ configuration indices

Platforms:

- Standalone- Windows NT, Windows 95, WFWG 3.1 or 3.11
- Network-
 - Part of NTCSS network - Novell server
 - IT-21/ISNS network & NTCSS optimized- Windows NT server
- 16-bit and 32 bit versions of software



ATIS CAPABILITIES AND DATA SUPPORTED

- Index and retrieval of raster scanned technical manuals and engineering drawings for each ship class and airframe in the Navy
 - NIRS/NIFF and C4 formats per MIL-PRF-28002
- Index, display, launch electronic technical manuals (IETM/ETMs) and other third party CD-ROM applications
 - CG 47, DD 963, DDG 51, AOE 6, FFG 7-gas turbine system
 - MCM 1- all systems on ship
 - SSN21, SSN 688, and SSBN 726 class ETMs
 - NSTM, and many other ETMs currently under development (SGML, HTML and other formats as well)
 - Almost any application that can be launched from a command line
- Launch other Windows based applications



ATIS CAPABILITIES AND DATA SUPPORTED

- Index, display, launch interactive electronic engineering drawing applications (IEDs)
 - Uses IED.NDX file format
 - Functionality similar to ETM/IETM support provided in ATIS
 - First part of NDX file entry contains drawing meta data and second part contains command line information necessary to launch the IED product
 - Document management requirements (replacement of older raster or IED images) contained in IED.NDX file
 - Functionality in version 1.3 (32 bit) and version 4.2(16 bit)

IETM.NDX FILE DESCRIPTION

- ATIS IETM support is quite flexible
- IETM.NDX file is key to ETM/IETM indexing within ATIS
- Provides necessary information to index ETMs into ATIS TM database and launch the given ETM view package to display the ETM
- Details found at <http://navysgml.dt.navy.mil/ietmdeve.html>
- Breakdown of IETM.NDX file
 - Two basic parts to each IETM.NDX file entry
 - Document identification and classification
 - DOCID, REV, DATE, TITLE, CHANGE HISTORY
 - CLASSIFICATION, RESTRICTIONS, RELEASES, etc..
 - Command line information to launch to specific ETM or section of ETM
 - DEFAULT EXE
 - COMMAND LINE ARGUEMENTS
 - DEFAULT DIRECTORY
 - SELECTIONS
 - INI FILE

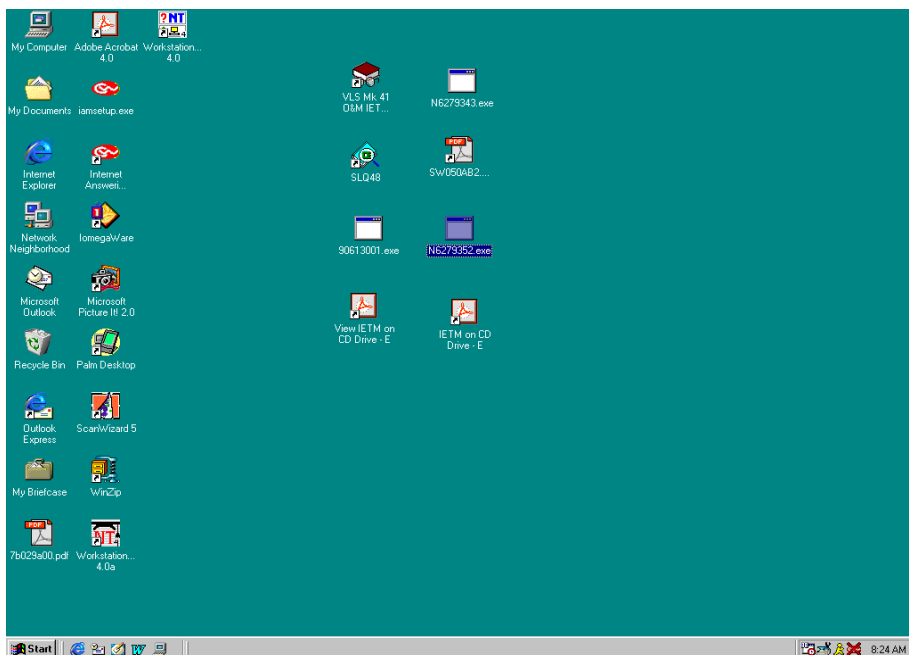


IETM.NDX CAPABILITIES

- IETM.NDX file is flexible enough to support launching of almost any Windows based application from within ATIS
- Use of <VARIABLES> and INI files in command line information allow for use of 1 CD of data with 1 IETM.NDX file to support multiple viewers for different operating systems
 - Ex. Adobe Acrobat uses one executable for Windows 3.11 and a different one for Win 95 and Win NT
 - Same logic can be applied to accessing html/xml based documents
- Can use shell execute programs to simplify IETM.NDX entries



WHY USE ATIS?



Document Number	Date	Changes	Type	Title
EE119-AC-OMI-010	20000711	0	A	SUBMARINE BASEBAND INTERCONNECTING SUBSYSTEM (SBIS) SWITCH
S6220-A6-MMA-010	20000711	0	I	MD-663C SERIES PACKAGE LOW PRESSURE AIR COMPRESSOR
S6226-K9-MMA-010	20000711	0	I	CHILLED WATER PUMP, 540 GPM TYPE 5-VABC-14
S6226-M3-MMA-010	20000711		I	SANITARY OVERBOARD PUMP
S6226-MK-MMA-010	20000711		I	EXTERNAL HYDRAULIC SYSTEM POWER PLANT and PUMPING UNITS
S9223-AG-MMM-010	20000711	0	I	AUTOMATIC BATTERY MONITORING SYSTEM (ABMS) MODEL 10-4700
S9302-AR-MMA-010	20000711		I	NON-PROPULSION PLANT MOTORS AND CONTROLLERS FOR SEAWO
S9302-AR-MMA-020	20000711		I	NON-PROPULSION PLANT MOTORS AND CONTROLLERS FOR SEAWO
S9314-DE-MMA-010	20000711	0	I	155 V DC POWER SYSTEM
S9516-BF-MMA-010	20000711	0	I	SHIPS STORES REFRIGERATION PLANT DUPLEX CONDENSING UNIT M
S9558-ALL-VOLUMES(U)	20000711	1	I	TABLE OF CONTENTS SHIP VALVE TECHNICAL MANUAL
S9558-BA-MMA-010	20000711	1	I	BALL AND BALL CHECK VALVES
S9558-BA-MMA-010/1-2-2	20000711		I	ANGLE BALL VALVES 2-1/2 INCH IPS TOP-LOADED, 2-WAY 3-POSITION
S9558-BA-MMA-010/1-4-21	20000711		I	BALL STOP AND SWING CHECK VALVES, 2 1/2- AND 4-INCH IPS ANGLE,
S9558-BA-MMA-010/1-4-38	20000711		I	ANGLE TRUNNION BALL VALVES 3-INCH IPS, TOP-LOADED, THREE-WAY
S9558-BA-MMA-010/1-5-10	20000711		I	BALL VALVE 4-INCH NPS TOP LOAD STRAIGHT LINE
S9558-BA-MMA-010/1-5-11	20000711		I	BALL VALVE 1-1/2 INCH NPS TOP LOAD STRAIGHT LINE TITANIUM
S9558-BA-MMA-010/1-5-15	20000711	1	I	BALL VALVES 1-1/2, 2, 3-INCH TOP-LOADED
S9558-BA-MMA-010/1-5-16	20000711	1	I	BALL VALVES 1/2, 3/4, & 1-INCH NPS COMBINATION HULL & BACKUP
S9558-BA-MMA-010/1-5-17	20000711	1	I	BALL VALVES 3-1/2 X 4 & 3-1/2 INCH NPS ANGLE BANK STOP



ETM/IETM TESTING AND ATIS COMPATIBILITY

- IETM developers must forward advance copy of CD-ROM to NSLC Atlantic for ATIS compatibility testing
- Testing to verify IETM.NDX meta data matches data found in TDMIS
- Two week turn around on testing
- Verification of IETM.NDX data can be done ahead of time
- ATIS Compatibility Testing Procedures can be found at the following web site:
 - <http://navycals.dt.navy.mil/ietm/ietmdeve.html>
- ETM/IETM CD-ROM management and testing letter ser 0413/039 of 23 JUL 99 discusses testing



ATIS FUNCTIONAL CAPABILITIES AND DATA SUPPORTED

- Configuration data indices
 - Search by identifiers other than DOCID or Title
 - Ships configuration and logistics information system (SCLSIS)
 - Motors and controllers manual index (M&CMI)
 - Valve label index (VLI)
 - Ship's drawing indices (SDI)
 - Generic index
 - Generic index of technical publications (ITP)
 - Micro-OMMs
- Allow external apps to link into ATIS to retrieve specific TM or ED via INTERFAC.EXE
 - TLMS, OMMS-NG, ICAS and ETMs use capability

INTERFAC.EXE

- INTERFAC.EXE is a command line interface that allows other applications to link back to ATIS to display a TM or ED
- Allows ETM developers to use external SGML references in SGML documents to link to TMs not under control of the developer
- ATIS controls link so developers do not need to keep TMs in synch
- ETM developers using this function to link reference lists in ETMs to other TMs and EDs
- Can build shortcuts/links to commonly used TMs and EDs and place in external menu bar, thus allowing bookmarks

RECENT ATIS ENHANCEMENTS

- Multiple page printing of raster TMs and EDs
 - Print selected pages, chapters, entire TM
 - Print frames, sheets, entire drawing
 - Capability to print to file for future view/print needs
- Foldout printing capability (raster TMs and EDs)
 - Scaleable from full size to 1 sheet
 - Prints portion of image on 8.5 x 11 paper with tick marks and legend to line up individual sheets
 - Future plans to allow viewer/print function to be called by ETM applications
- Pending Change indicator
 - Allows administrator to indicate a change that may apply to TM or ETM when it is not available on CD yet (ACNs)
 - 254 character field
- Raster TM and ED annotations
 - Public--Created by administrator
 - Private--Created by user
 - Up to 9 pages of text

RECENT ATIS ENHANCEMENTS

- Raster Folder capability
 - Copy image to folders and take folder and FOLDER.EXE to any other PC to view images
- Utility program to produce lists of TM and ED CDs in database as well as determining CD a particular TM or ED is located on
- Ability to build bookmarks(external menu options) to specific TMs and EDs from TM and ED search results
- ATIS is not coded to communicate with any specific COTS hardware or software (jukebox or jukebox server, RAID array etc. Can be used to provide access to data)
 - ATIS looks for CDROM volume on a given path
 - Ex. CDJBPATH=J:\CDROM This path could be pointing to a Smart Storage supported jukebox, a VCDMAN supported jukebox, a Mediator supported jukebox, an Iomega zip drive, a hard drive or a RAID array mapped to drive J.
 - Jukebox path can be mapped drive or UNC mapping



CURRENT & FUTURE ATIS EFFORTS

- 32 bit ATIS version 1.3 and 16 bit version 4.2 testing and distribution
- Multi class support
 - Ability to support multiple classes of information on one file server
- “Other documents” modules
 - Provide ships the ability to index locally scanned documents, instructions, procedures etc. that are not technical data
- Web ATIS development
 - Migration of ATIS application to run from web browser interface with intranet web server and application/database server
 - Web ATIS IPT



ATIS INSTALLATIONS

- Over 280 shipboard installations
 - 32 bit ATIS
 - 128 ships networked (approx.. 110 have RAID)
 - 66 ships standalone
 - RAID replacement is done as funding and personnel resources permit.
 - 16 bit ATIS
 - 69 ships networked (awaiting tech refresh from IT-21/ISNS)
 - 36 ships standalone
 - Network shipboard installations supported by NTCSS program
- Several hundred shore based installations

ISSUES

- 16 bit vs. 32 bit operating systems
 - Installations through fall 1997 were WFWG and Novell
 - Fall 97 through 1999 installs used Win NT and jukeboxes
 - Installations since 1999 have used Win NT and RAID
 - Design products to work with lowest common configuration
- Jukeboxes vs. RAID
 - Jukeboxes cache files to memory to free CD drives for others to use
 - Raid allows direct access to server hard disk for multiple users
- Preferred products list (PPL)
 - NTCSS PPL initiated by CINCLANTFLT/CINCPACFLT naval message in April 1996
 - Means to control loading of software applications on NTCSS network
 - IT-21/ISNS PPL process established in 1999?
 - <http://www.massolant.navy.mil/ppl/PreferredProductList.htm>
 - Issue of grandfathering existing applications
 - Costs to test new applications
 - Future environments (Win 2K, Win XP?)

DATA ISSUES

- ATIS presents digital technical information
 - Information comes from TMMAs, planning yards, NSDSA, ETM developers, etc.
 - Availability of technical and configuration data varies by class
- ATIS is the only place where this data is integrated
 - SDIs and raster drawing CDs.
 - ITPs, raster TM CDs and IETMs.
 - SCLSIS, SDIs, and ITPs.
- ATIS has limited capabilities to correct data problems
- ATIS requires exact matches in order to ensure the correct data is given to the sailor
 - Technical Manuals:
 - Publication ID (TMINs), Revision/Pub date, Change history
 - Engineering Drawings:
 - Drawing number, Document Type, CAGE, and Revision

DATA ISSUES CONTINUED

- Existing data in independent legacy systems don't always match, examples are:
 - Is the TM DOCID 0948-095-5010 or 0948-LP-095-5010?
 - Is the TM DOCID S9593-CD-MMO-010 or S9593-CD-MM0-010? (second is MM"Zero")
 - Does the IETM have changes A and B as required or not?
 - Are 4788662 CAGE 96169, 4788662 CAGE 53711, and 4788662 CAGE 80064 the same or different drawings?
 - Are 5385805 CAGE 53711 Document type 01, 5385805 CAGE 53711 Document type 2, and 5385805 CAGE 53711 Document type blank the same or different drawings?
- Resulting situations
 - If an exact match is found - the sailor sees the technical manual/engineering drawing
 - If an id only match is found - the sailor must make a selection from the partial matches because the requested item is not available
 - If no match is found - the sailor is told the item is not available
- Need to eliminate manual intervention and software work arounds
- Deliver technical data with correct identifiers (meta data)



SUMMARY

- ATIS application provides ships and shore activities access to technical data
- ATIS is installed on
 - 197+ shipboard network installations
 - 100+ standalone installations
 - Hundreds of shore facilities
- Software is proven and supported
- Technical Data and associated meta data are key elements in ATIS